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REMARKS

Claims 3, 4, 6,-8, 15, 16, and 18-20 were rejected under 35 USC 103 as being unpatentable over Seshadri, US Patent 5,544,328 issued August 6, 1996, in view of a previously cited Naguib et al article. Applicants, who include the inventor of the cited patent, and three out of the four authors of the cited article, respectfully traverse.

In connection with independent claims 3 and 15, the Examiner correctly observed that the Seshadri patent discloses a transmitter for developing a plurality of signal streams and the different streams employ channel encoders whose coding rates are not identical. The Examiner also correctly observed that the Naguib et al article disclosed space-time encoding. However, the Examiner's conclusion that it would have been obvious to combine the two references and to thus arrive at a system as defined in claims 3 and 15 is incorrect.

The entire thrust of the Seshadri patent is (a) to create different streams of signals so that they can be coded into groups of constellation points, with more significant bits being transmitted via constellation points that are farther apart, and (b) then combine the encoded signals and transmit the combined signal over a single transmitting antenna.

The improved performance is achieved by (a) settling on the notion of using two different constellations, where one has constellation points that are farther apart provide better noise performance, and (b) selecting for transmission with the farther-apart constellation points those bits of the original signal stream that are more important (such as the most significant bits of words). This is a wholly different approach from an approach of using space-time coding, where multiple signals are transmitted to a destination over different paths and accumulate different and uncorrelated interferences, and where the performance is improved equally for all bits. The latter, of course, is the approach that the subject claims specify.

Because the approaches are so completely different, it is respectfully submitted that it would not be obvious to "couple space-time coding to the channel encoders of Seshadri." Put another way, there is nothing in the Seshadri reference that would motivate a skilled artisan to combine the Naguib teachings into the Seshadri patent, so as to NOT combine the separate signals and thus move wholly away from a basic premise of the Seshadri patent's advance in the art. In short, it is respectfully submitted that claims 3

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and 15 are not obvious in view of the Seshadri and Naguib et al combination of references, and neither are the remaining claims, which depend on either claims 3 or claim 15.

In light of the above remarks, it is respectfully submitted that all of the Examiner's rejections have been overcome. Reconsideration and allowance are respectfully solicited.

Respectfully,
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